DESCRIPTION OF LEASE, PUBLIC INTEREST STATEMENT AND REQUEST FOR WAIVERS

As set forth in the foregoing FCC Forms 608, various indirect subsidiaries of AT&T Inc. (collectively, "AT&T" or "Lessor") and AST & Science, LLC ("AST" or "Lessee") (the AT&T Licensees and AST are individually a "Party" and collectively the "Parties") hereby notify the Commission that they have entered into a long-term spectrum manager lease agreement ("Lease Agreement") pursuant to which AT&T will lease to AST certain 850 MHz cellular A and B block spectrum as well as certain Lower 700 MHz B and C block spectrum (collectively, the "Leased Spectrum"). The Leased Spectrum is described in more detail in Exhibit 2.

Description of the Parties

AT&T is a leading provider in the United States of wireless, Wi-Fi, high-speed Internet, local and long distance voice, mobile broadband, as well as worldwide wireless coverage and IP-based business communications services. As shown in Exhibit 2, seven indirect subsidiaries of AT&T ("the AT&T Licensees") will lease the Leased Spectrum to AST. The AT&T Licensees involved are listed in Exhibit 2.

AST is a subsidiary of AST SpaceMobile, Inc. (NASDAQ: ASTS) headquartered in Midland, TX, a satellite company, founded with the goal of providing space-based cellular broadband service to mobile network operators, to allow them to provide broadband coverage to end users with standard off-the-shelf wireless handsets. On April 25th, 2023, AST announced the completion of the first-ever space-based voice call directly to an unmodified smartphone, made from the Midland, Texas area to Rakuten in Japan over the same frequencies used by AT&T and other mobile networks using a Samsung Galaxy S22 smartphone.[1]

Lessee is the real party-in-interest with respect to this application. All required information regarding the ownership of Lessee is contained in the Lessee's Form 602 Wireless Ownership Disclosure Report, which is on file with the Commission.[2] Lessee is exempt from the provision of Section 310(b), 47 U.S.C. § 310(b), because the Lessee is not providing common carrier radio services, but rather provides private and/or non-common carrier services. Specifically, Lessee will provide service on the Leased Spectrum only to one customer, Lessor,

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[1] *See* AST SpaceMobile Makes History in Cellular Connectivity, Completing the First-Ever Space-Based Voice Call Using Everyday Unmodified Smartphones (April 25, 2023), https://ast-science.com/2023/04/25/ast-spacemobile-makes-history-in-cellular-connectivity-completing-the-first-ever-space-based-voice-call-using-everyday-unmodified-smartphones/ (last visited May 7, 2023).

[2] *See* ULS File No. 0010535261. Although AST has answered Questions 154-158 of the foregoing Forms 608, the service contemplated herein is not common carrier as AST will not be offering service for a fee directly to the public.

and pursuant to an individually negotiated, customer specific contract.[3] Additionally, Lessee will not hold itself out indiscriminately to the public or a subgroup thereof.[4] Accordingly, Lessee is properly classified as a private carrier.

Description of Transaction

The Parties entered into the Lease Agreement whereby Lessee would utilize the Leased Spectrum to provide supplemental coverage from space ("SCS") services to enable expanded coverage to AT&T subscribers. Lessee would conduct operations under the Lease Agreement in cooperation with Licensee and in accordance with applicable rules, regulations, and Commission authorizations. Lessee has a Part 25 application currently pending with the Commission for its planned space constellation's V-Band gateway links and will also file a corresponding request for authorization to enable a payload capable of transmitting on the Leased Spectrum pursuant to Part 25 of the Commission's rules requesting all necessary waivers.[5] Although for purposes of completing the Forms 608, the Parties have indicated that the lease will commence 21 days after filing, Lessee would not commence using the Leased Spectrum without obtaining all necessary Commission approvals.

Request for Waivers

Pursuant to Sections 1.3 and 1.925 of the Commission's Rules,[6] the Parties respectfully request waiver, to the extent necessary, of the following rule parts in order to provide SCS services: Sections 2.106, 1.9020(d)(3), 22.913, 22.917, 22.970, 22.972, 22.983, 27.50. 27.53, 27.54, 27.55.[7] Further, the Parties respectfully request waiver of any other Commission Rules that may be necessary to permit Lessee's proposed operations.

Under Section 1.925 of the Commission's Rules, waivers may be granted if it is shown that "(i) the underlying purpose of the rules would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; or (ii) in view of unique or unusual factual circumstances of the instant case, application of the rules would be inequitable, unduly burdensome or contrary to the public interest, or the

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3 *See, e.g., Iowa Telecommunications Servs. v. Iowa Utilities Bd.,* 563 F.3d 743, 749-50 (8th Cir. 2009) (emphasizing that private carriers enter into individually negotiated, customer-specific contracts with limited, long-term clientele).

4 *See, e.g., United States Telecom Ass'n v. FCC,* 295 F.3d 1326, 1329 (D.C. Cir. 2002) (a common carrier holds itself out indiscriminately to serve all within a legally defined class of users).

5 *See* IBFS File Nos. SAT-PDR-20200413-00034, SAT-APL-20200727-00088, SAT-APL-20201028-00126.

6 47 C.F.R. §§ 1.3, 1.925.

7 47 C.F.R. §§ 2.106, 1.9020(d)(3), 22.913, 22.917, 22.970, 22.972, 22.983, 27.50, 27.53, 27.54, and 27.55.

applicant has no reasonable alternative."[8] The Parties clearly meet this standard and there is good cause for the Commission to grant the waivers requested herein.

As the Commission has recognized, the rapid deployment of SCS will promote the public interest in several significant ways. Fundamentally, SCS has the potential to expand coverage to a terrestrial licensee's subscribers, especially in remote, unserved, and underserved areas.[9] More broadly, SCS systems "could enable innovation and investment in nascent satellite and terrestrial interoperable technologies and cross-industry stakeholder partnerships to flourish in the United States" while also playing "a key role towards fulfilling other Commission goals in the public interest."[10] As the Commission has identified, these goals are numerous and include "facilitating ubiquitous wireless coverage across the nation; expanding the availability of emergency communications to consumers and the geographic range of first responders to provide emergency services; and promoting competition in the provision of wireless services to consumers."[11]

Moreover, the Commission has indicated that rigid application of the rules in the context of SCS would be contrary to the public interest. In launching its recent proceeding to adopt a regulatory framework to facilitate SCS operations, the Commission emphasized that it "d[id] not wish to discourage or delay the development of other innovative solutions for supplemental satellite coverage."[12] Thus, the Commission made clear that during the pendency of the SCS proceeding, it would "continue to consider filings made by interested parties," including "requests for rule waiver," even where applications "do not meet the initial criteria" proposed for SCS operations. Considering and granting waiver requests, such as those sought herein, "permits the rapid consideration of innovative solutions in the dynamic satellite-terrestrial marketplace."[13] Consistent with the public interest and the Commission's goals in the SCS proceeding, the Commission should grant the requested waivers.

Blanket Earth Station Licensing Waiver. To the extent the Commission determines that Sections 25.102(a) and 25.115(a)(1)(i) require an earth station license for mobile devices that communicate with SCS payloads, the Parties respectfully request waivers of those rules.[14] Under these provisions, prior authorization is generally required before transmitting to an "earth station," which is defined to mean RF devices on the Earth's surface that are "intended for

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8 47 C.F.R. § 1.925(b)(3).

9 *Single Network Future: Supplemental Coverage from Space*, Notice of Proposed Rulemaking, GN Docket No. 23-65, IB Docket No. 22-271 at ¶ 1 (rel. Mar. 17, 2023).

10 *Id.*

11 *Id.*

12 *Id.* ¶ 43.

13 *Id.*

14 47 C.F.R. §§ 25.102(a), 25.115(a)(1)(i).

communication" with a space station or other earth stations by a reflecting satellite.[15] As an initial matter, AST's system is being designed to operate with off-the-shelf mobile devices that are intended for communication with terrestrial networks, not satellites, and thus, blanket earth station requirements should not apply. Mobile devices would only transmit to a SCS payload if a terrestrial base station is out of reach or unavailable.

More broadly, in the Parties' view, a blanket earth station license is redundant and unnecessary in the SCS context. The Commission's equipment authorization rules already confirm that mobile devices operate in a manner consistent with applicable technical rules. Accordingly, the Commission does not require separate authorizations for mobile handsets but instead considers them "included in the authorization held by the licensee providing service to them."[16] Importantly, mobile devices will not need to be modified in any way to permit SCS and the consumer experience will be exactly the same, regardless of whether a device transmits to a terrestrial base station or one in space. Requiring blanket earth station licenses for mobile devices would thus be unnecessary and burdensome. Nevertheless, out of an abundance of caution, the Parties hereby seek waiver of the blanket earth station licensing requirements to the extent the Commission concludes that they apply here.

Public Interest Statement

The Lease Agreement furthers the public interest. AST is designing a constellation of satellites designed to supplement mobile broadband coverage for mobile carriers, to operate directly with standard, unmodified mobile devices based on its extensive IP and patent portfolio. The SCS service that AST expects to provide is designed to meet 3GPP standards, including Release 17.

AST intends to provide broadband access directly to AT&T customer handsets that operate on the Leased Spectrum, without any modifications or the use of special chipsets, and without the buildout of any additional terrestrial wireless infrastructure. This is expected to allow AT&T to provide space-based broadband coverage in its licensed areas, including temporary coverage following natural disasters.

On April 1, 2019, AST launched its first test satellite, BlueWalker 1, which was used to validate its satellite-to-cellular architecture and was capable of managing communications delays from LEO and the effects of doppler in a satellite to ground cellular environment using 4G-LTE protocols.[17] AST launched its BlueWalker 3 ("BW3") test satellite on September 10, 2022.[18] The BW3 test satellite is designed to communicate directly with cellular devices via

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15 47 C.F.R. § 25.103.

16 47 C.F.R. § 1.903(c).

17 OET Experimental Authorization, Call Sign WJ2XZZ.

18 OET Experimental Authorization, Call Sign WL2XRE.

3GPP standard frequencies. On April 25th, 2023, AST announced the completion of the first-ever space-based voice call directly to an unmodified smartphone, made from the Midland, Texas area to Rakuten in Japan over the same frequencies used by AT&T and other mobile networks using a Samsung Galaxy S22 smartphone.[19] AST is continuing to conduct a series of tests to directly communicate with standard/unmodified cellular devices in conjunction with various MNOs. The goal of these tests is to work with third parties, including Licensee, to demonstrate the BW3 test satellite's ability to operate a communications circuit with standard/unmodified cellular devices at speeds typically used in 5G settings. AST expects to launch five Block 1 BB Satellites in the first quarter of 2024.

Finally, Lessee's use of the Leased Spectrum will not result in harmful interference to, or require protection from, other U.S. satellite or terrestrial wireless licensees in the United States. Lessee will coordinate its operations with AT&T, for the benefit of AT&T's existing customers, and with other licensees as required, and will operate in accordance with Commission authorizations. AST's satellites are being designed to have precise control and management over downlink transmissions, including the use of the largest phased array antennas deployed in low earth orbit that transmit narrowly focused beams to small terrestrial service areas, employ technology that facilitates fast beam roll-off outside of the service area, permit digital beam forming, and enable complete over beam on/off switching. Moreover, real-time beam power control and management to each service area will monitor and control potential co-channel and adjacent channel interference, and Lessee will cease any transmissions causing harmful interference by use of ground commands that will ensure prompt cessation of emissions.

In sum, the instant spectrum manager leases serve the public interest and promote fundamental Commission policy goals. AT&T's terrestrial network already covers over 290 million Americans[20] and more than 2.91 million square miles.[21] In collaboration with AST, it expects to provide mobile broadband to unserved and underserved areas covered by the Leased Spectrum. Moreover, with AST's advanced satellite technology, this SCS will be provided without harmful interference to adjacent or co-channel networks. In other words, the AT&T/AST collaboration will use spectrum efficiently. Because AST's technology can focus satellite coverage in discrete portions of licensed areas, it does not need a nationwide swath of terrestrial mobile spectrum that a mobile network operator licensee has left fallow. Rather than displacing terrestrial network facilities nationwide, AST's coverage will be complementary to AT&T's extensive terrestrial network coverage.

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[19] *See* AST SpaceMobile Makes History in Cellular Connectivity, Completing the First-Ever Space-Based Voice Call Using Everyday Unmodified Smartphones (April 25, 2023), https://ast-science.com/2023/04/25/ast-spacemobile-makes-history-in-cellular-connectivity-completing-the-first-ever-space-based-voice-call-using-everyday-unmodified-smartphones/ (last visited May 7, 2023).

[20] AT&T, *Our Purpose*, https://about.att.com/pages/corporate-profile (last visited Mar. 31, 2023).

[21] Press Release, AT&T, AT&T Expands 5G and Fiber to Connect Rural, Urban and Tribal Communities Nationwide (Mar. 22, 2023), *available at* https://about.att.com/story/2023/expands-5g-and-fiber.html

For all of these reasons, the lease arrangement is clearly in the public interest.

Competition Analysis

The Lease Agreement does not raise any competitive or other public interest concerns. Lessee currently holds no FCC licenses for spectrum that is suitable and available for mobile wireless services and multiple carriers hold spectrum in the applicable markets. The underlying licenses are not subject to any bidding credits or restrictions on ownership based on designated entity status. In addition, given that Lessee's services will be used to support and extend AT&T's network coverage, the lease arrangement does not give rise to any customer transition issues, and will not result in any discontinuance, reduction, loss or impairment of service to customers.

For the foregoing reasons, the Parties submit that acceptance of the spectrum manager lease notifications will serve the public interest, convenience, and necessity.